

## **PRODUCTION DATA REPORT**

**Project 1108-13**

**Supplementary Report Twenty-eight**

**to**

**FOURDRINIER KRAFT BOARD INSTITUTE, INC.**

**November 1, 1959**

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

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The production data contained herein represent the production of linerboard as reported by the following Fourdrinier Kraft Board Institute member mills for the third quarter of 1959:

The Chesapeake Corporation of Virginia

Continental Can Company, Inc.

Gaylord Container Corporation, Division of Crown Zellerbach Corporation

Georgia Kraft Company

International Paper Company

North Carolina Pulp Co. & Kieckhefer Container Co.

Olin Mathieson Chemical Corp., Forest Products Division

Owens-Illinois Glass Company, Mill Division

St. Joe Paper Company

St. Regis Paper Company

Southern Paperboard Corporation

Union Bag-Camp Paper Corporation

West Virginia Pulp and Paper Company

As in previous reports, the data have been tabulated according to (1) total production by quarters and (2) production by grades by quarters. The total production data for the first three quarters of 1959 are given in Table I together with, for purposes of comparison, the total quarterly production data for 1956, 1957, and 1958. The total production data by quarters from 1956 to the present are illustrated graphically in Figure 1.

Production data on a quarterly basis for 1958 and 1959 to date are shown in Table II for the major grades and in Table III for all grades. In Table IV the percentage of total production which each grade represents is given on a quarterly basis for 1958 and 1959 to date. These percentage figures for each grade are based on the total production per quarter computed separately with the miscellaneous figure included and with the miscellaneous figure excluded. The current tonnage data for the major grades--namely, 26 lb., 33 lb., 38 lb., 42 lb., 47 lb., 69 lb., 90 lb., and miscellaneous--are illustrated graphically in Figures 2 through 9, respectively, on a quarterly basis from 1956 to the present quarter. Also shown in Figures 2 through 9 is the percentage of total production which each major grade represents.

In order to give a better perspective of the above data, the tonnages for the major grades have been plotted on a semi-logarithmic scale (see Figure 10) for the purpose of comparing the change in production of these grades. A useful measure is the "percentage change" which is defined as the change in production in tons for the present quarter divided by the tonnage level of the previous quarter. The advantage of semi-log graphs in this case is that the "percentage change" may be compared readily even though the magnitude of the tonnage levels may be vastly different. When two lines are parallel (regardless of magnitude), the "percentage change" of these two items is the same. When two lines are not parallel, the one with the greater (steeper) slope has the higher "percentage change."

There are numerous comparisons which may be of interest, some of which are the following:

1. The total production of all grades for the second quarter of 1959 was 1,086,571 tons and was the highest quarterly tonnage recorded since the inception of these reports in 1953. (See Table I.)
2. Compared with the tonnages for the second quarter of 1959, tonnages of all grades except 69 lb. and 90 lb. were higher during the third quarter. (See Table II.)

TABLE I

TOTAL TONNAGE OF ALL GRADES

|             | 1956           | 1957           | 1958           | 1959              |
|-------------|----------------|----------------|----------------|-------------------|
| 1st Quarter | 972,607        | 932,706        | 836,013        | 902,850           |
| 2nd Quarter | 995,265        | 946,959        | 793,764        | 1,013,064         |
| 3rd Quarter | 959,662        | 924,262        | 919,520        | 1,086,571         |
| 4th Quarter | <u>952,295</u> | <u>914,979</u> | <u>940,090</u> | <u>          </u> |
| Total       | 3,879,829      | 3,718,906      | 3,489,387      |                   |

TABLE II

TONNAGE OF MAJOR GRADES BY QUARTERS FOR 1958 AND 1959

| Grade       | 1st Quarter | <u>1958</u> | 3rd Quarter | 4th Quarter |
|-------------|-------------|-------------|-------------|-------------|
|             |             | 2nd Quarter |             |             |
| 26 lb.      | 41,837      | 48,393      | 50,598      | 52,946      |
| 33 lb.      | 49,694      | 52,791      | 58,904      | 58,951      |
| 38 lb.      | 90,207      | 82,493      | 108,398     | 94,499      |
| 42 lb.      | 363,902     | 322,583     | 383,150     | 399,133     |
| 47 lb.      | 20,870      | 18,322      | 19,339      | 19,741      |
| 69 lb.      | 116,068     | 101,638     | 103,106     | 136,396     |
| 90 lb.      | 50,325      | 41,145      | 62,951      | 60,976      |
| Misc.       | 78,244      | 95,493      | 91,419      | 90,689      |
| <u>1959</u> |             |             |             |             |
| 26 lb.      | 51,621      | 58,875      | 68,524      |             |
| 33 lb.      | 60,863      | 70,192      | 72,824      |             |
| 38 lb.      | 84,859      | 100,366     | 103,065     |             |
| 42 lb.      | 402,410     | 428,855     | 471,099     |             |
| 47 lb.      | 22,662      | 20,212      | 22,078      |             |
| 69 lb.      | 130,840     | 135,644     | 124,987     |             |
| 90 lb.      | 59,537      | 67,828      | 66,338      |             |
| Misc.       | 66,738      | 110,483     | 136,277     |             |

TABLE III  
TONNAGE OF ALL GRADES BY QUARTERS FOR 1958 AND 1959

| Grade    | 1958     |          |          |          | 1959     |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|          | 1st Qtr. | 2nd Qtr. | 3rd Qtr. | 4th Qtr. | 1st Qtr. | 2nd Qtr. | 3rd Qtr. | 4th Qtr. |
| 26 lb.   | 41,837   | 48,393   | 50,598   | 52,946   | 51,621   | 58,875   | 68,524   |          |
| 27 lb.   | --       | --       | --       | --       | --       | 64       | --       |          |
| 28 lb.   | 518      | 706      | 587      | 268      | 1,374    | 363      | 340      |          |
| 30 lb.   | 7,171    | 1,462    | 1,206    | 892      | 1,013    | 429      | 1,612    |          |
| 32 lb.   | --       | 1,166    | 1,044    | 851      | 1,431    | 1,214    | 863      |          |
| 33 lb.   | 49,694   | 52,791   | 58,904   | 58,951   | 60,863   | 70,192   | 72,824   |          |
| 34 lb.   | --       | --       | --       | --       | --       | 171      | 276      |          |
| 35 lb.   | --       | --       | --       | 103      | --       | --       | --       |          |
| 36 lb.   | 47       | --       | 14       | --       | --       | 40       | 1,217    |          |
| 37 lb.   | --       | --       | --       | 50       | --       | --       | --       |          |
| 38 lb.   | 90,207   | 82,493   | 108,398  | 94,499   | 84,859   | 100,366  | 103,065  |          |
| 42 lb.   | 363,902  | 322,583  | 383,150  | 399,133  | 402,410  | 428,855  | 471,099  |          |
| 43.5 lb. | --       | --       | --       | --       | 75       | 150      | 274      |          |
| 45 lb.   | 14,546   | 14,622   | 12,170   | 12,502   | 13,720   | 13,479   | 11,026   |          |
| 47 lb.   | 20,870   | 18,322   | 19,339   | 19,741   | 22,662   | 20,212   | 22,078   |          |
| 48 lb.   | --       | --       | --       | --       | --       | --       | 71       |          |
| 50 lb.   | 394      | 750      | 467      | 888      | 531      | 476      | 967      |          |
| 51 lb.   | --       | --       | --       | --       | 176      | --       | --       |          |
| 52 lb.   | 759      | 355      | 743      | 352      | 495      | 1,144    | 909      |          |
| 53 lb.   | --       | --       | --       | --       | --       | --       | 82       |          |
| 55 lb.   | --       | --       | --       | --       | 27       | 25       | --       |          |
| 56 lb.   | --       | --       | 26       | 65       | 81       | 168      | 221      |          |
| 60 lb.   | 199      | 87       | 88       | --       | --       | --       | --       |          |
| 61 lb.   | --       | --       | --       | --       | --       | --       | 37       |          |

TABLE III--Continued  
TONNAGE OF ALL GRADES BY QUARTERS FOR 1958 AND 1959

| Grade  | 1958     |          |          |          | 1959     |          |          |          |
|--------|----------|----------|----------|----------|----------|----------|----------|----------|
|        | 1st Qtr. | 2nd Qtr. | 3rd Qtr. | 4th Qtr. | 1st Qtr. | 2nd Qtr. | 3rd Qtr. | 4th Qtr. |
| 62 lb. | --       | 10,162   | 16,787   | --       | 92       | 113      | 626      |          |
| 64 lb. | 1,182    | 1,496    | 1,760    | 10,543   | 3,338    | 2,395    | 2,177    |          |
| 65 lb. | --       | 30       | 102      | 15       | 56       | 45       | 28       |          |
| 69 lb. | 116,068  | 101,638  | 103,106  | 136,396  | 130,840  | 135,644  | 124,987  |          |
| 72 lb. | --       | --       | --       | --       | --       | --       | 19       |          |
| 75 lb. | --       | 70       | 5,740    | --       | --       | --       | 351      |          |
| 76 lb. | --       | --       | 275      | 230      | 199      | --       | --       |          |
| 85 lb. | --       | --       | 646      | --       | 712      | 568      | 283      |          |
| 90 lb. | 50,325   | 41,145   | 62,951   | 60,976   | 59,537   | 67,828   | 66,338   |          |
| Misc.  | 78,244   | 95,493   | 91,419   | 90,689   | 66,738   | 110,483  | 136,277  |          |



TABLE IV  
PERCENTAGE OF TOTAL PRODUCTION REPRESENTED BY EACH GRADE

| Grade    | 1958                               |                           |                                    |                           |                                    |                           | 1959                               |                           |                                    |                           |                                    |                           |
|----------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|------------------------------------|---------------------------|
|          | 1st Qtr.                           |                           | 2nd Qtr.                           |                           | 3rd Qtr.                           |                           | 1st Qtr.                           |                           | 2nd Qtr.                           |                           | 3rd Qtr.                           |                           |
|          | With <sup>a</sup> out <sup>b</sup> | With-<br>out <sup>b</sup> | With <sup>a</sup> out <sup>b</sup> | With-<br>out <sup>b</sup> | With <sup>a</sup> out <sup>b</sup> | With-<br>out <sup>b</sup> | With <sup>a</sup> out <sup>b</sup> | With-<br>out <sup>b</sup> | With <sup>a</sup> out <sup>b</sup> | With-<br>out <sup>b</sup> | With <sup>a</sup> out <sup>b</sup> | With-<br>out <sup>b</sup> |
| 26 lb.   | 5.0                                | 5.5                       | 6.1                                | 6.9                       | 5.5                                | 6.1                       | 5.7                                | 6.2                       | 5.8                                | 6.5                       | 6.3                                | 7.2                       |
| 27 lb.   | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | c                                  | c                         | --                                 | --                        |
| 28 lb.   | 0.1                                | 0.1                       | 0.1                                | 0.1                       | 0.1                                | 0.1                       | 0.2                                | 0.2                       | c                                  | c                         | c                                  | c                         |
| 30 lb.   | 0.9                                | 0.9                       | 0.2                                | 0.2                       | 0.1                                | 0.1                       | 0.1                                | 0.1                       | c                                  | c                         | 0.1                                | 0.2                       |
| 32 lb.   | --                                 | --                        | 0.1                                | 0.2                       | 0.1                                | 0.1                       | 0.2                                | 0.2                       | 0.1                                | 0.1                       | 0.1                                | 0.1                       |
| 33 lb.   | 5.9                                | 6.6                       | 6.7                                | 7.6                       | 6.4                                | 7.1                       | 6.7                                | 7.3                       | 6.9                                | 7.8                       | 6.7                                | 7.7                       |
| 34 lb.   | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | c                                  | c                         | c                                  | c                         |
| 35 lb.   | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        |
| 36 lb.   | c                                  | c                         | --                                 | --                        | c                                  | --                        | --                                 | --                        | c                                  | c                         | 0.1                                | 0.1                       |
| 37 lb.   | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        |
| 38 lb.   | 10.8                               | 11.9                      | 10.4                               | 11.8                      | 11.8                               | 13.1                      | 9.4                                | 10.1                      | 9.9                                | 11.1                      | 9.5                                | 10.8                      |
| 42 lb.   | 43.5                               | 48.0                      | 40.6                               | 46.2                      | 41.7                               | 46.3                      | 44.5                               | 48.1                      | 42.3                               | 47.5                      | 43.4                               | 49.6                      |
| 43.5 lb. | --                                 | --                        | --                                 | --                        | --                                 | --                        | c                                  | c                         | c                                  | c                         | c                                  | c                         |
| 45 lb.   | 1.7                                | 1.9                       | 1.8                                | 2.1                       | 1.3                                | 1.5                       | 1.5                                | 1.6                       | 1.3                                | 1.5                       | 1.0                                | 1.2                       |
| 47 lb.   | 2.5                                | 2.8                       | 2.3                                | 2.6                       | 2.1                                | 2.3                       | 2.5                                | 2.7                       | 2.0                                | 2.2                       | 2.0                                | 2.3                       |
| 48 lb.   | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | c                                  | c                         |
| 50 lb.   | c                                  | 0.1                       | 0.1                                | 0.1                       | 0.1                                | 0.1                       | 0.1                                | 0.1                       | c                                  | 0.1                       | 0.1                                | 0.1                       |
| 51 lb.   | --                                 | --                        | --                                 | --                        | --                                 | --                        | c                                  | c                         | --                                 | --                        | --                                 | --                        |
| 52 lb.   | 0.1                                | 0.1                       | c                                  | 0.1                       | 0.1                                | 0.1                       | 0.1                                | 0.1                       | 0.1                                | 0.1                       | 0.1                                | 0.1                       |
| 53 lb.   | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | c                                  | c                         |
| 55 lb.   | --                                 | --                        | --                                 | --                        | --                                 | --                        | c                                  | c                         | c                                  | c                         | --                                 | --                        |
| 56 lb.   | --                                 | --                        | --                                 | --                        | c                                  | c                         | c                                  | c                         | c                                  | c                         | c                                  | c                         |
| 60 lb.   | c                                  | c                         | c                                  | c                         | c                                  | c                         | --                                 | --                        | --                                 | --                        | --                                 | --                        |
| 61 lb.   | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | --                                 | --                        | c                                  | c                         |

Notes: See the following page.

TABLE IV--Continued  
PERCENTAGE OF TOTAL PRODUCTION REPRESENTED BY EACH GRADE

| Grade  | 1958   |  |  |  | 1959   |  |  |  |
|--------|--|--|--|--|--|--|--|--|
|        | 1st Qtr.<br>With <sup>a</sup> out <sup>b</sup> | 2nd Qtr.<br>With <sup>a</sup> out <sup>b</sup> | 3rd Qtr.<br>With <sup>a</sup> out <sup>b</sup> | 4th Qtr.<br>With <sup>a</sup> out <sup>b</sup> | 1st Qtr.<br>With <sup>a</sup> out <sup>b</sup> | 2nd Qtr.<br>With <sup>a</sup> out <sup>b</sup> | 3rd Qtr.<br>With <sup>a</sup> out <sup>b</sup> | 4th Qtr.<br>With <sup>a</sup> out <sup>b</sup> |
| 62 lb. | ---  | 1.3  | 1.5  | ---  | c  | c  | 0.1  | 0.1  |
| 64 lb. | 0.1  | 0.2  | 0.2  | 1.1  | 0.4  | 0.2  | 0.2  | 0.2  |
| 65 lb. | ---  | c  | c  | c  | c  | c  | c  | c  |
| 69 lb. | 13.9   | 12.8   | 14.6   | 14.5   | 14.5   | 13.4   | 11.5   | 13.2   |
| 72 lb. | ---  | ---  | ---  | ---  | ---  | ---  | c  | c  |
| 75 lb. | ---  | c  | c  | ---  | ---  | ---  | c  | c  |
| 76 lb. | ---  | ---  | ---  | c  | c  | ---  | ---  | ---  |
| 85 lb. | ---  | ---  | 0.1  | ---  | 0.1  | 0.1  | c  | c  |
| 90 lb. | 6.0  | 5.2  | 5.9  | 6.5  | 6.6  | 6.7  | 6.1  | 7.0  |
| Misc.  | 9.4  | 12.0   | 9.9  | 9.6  | 7.4  | 10.9   | 12.5   | ---  |

<sup>a</sup> Percentage based on the total production of all grades including miscellaneous.

<sup>b</sup> Percentage based on the total production of all grades excluding miscellaneous.

<sup>c</sup> Less than one-tenth of one per cent after being rounded off.

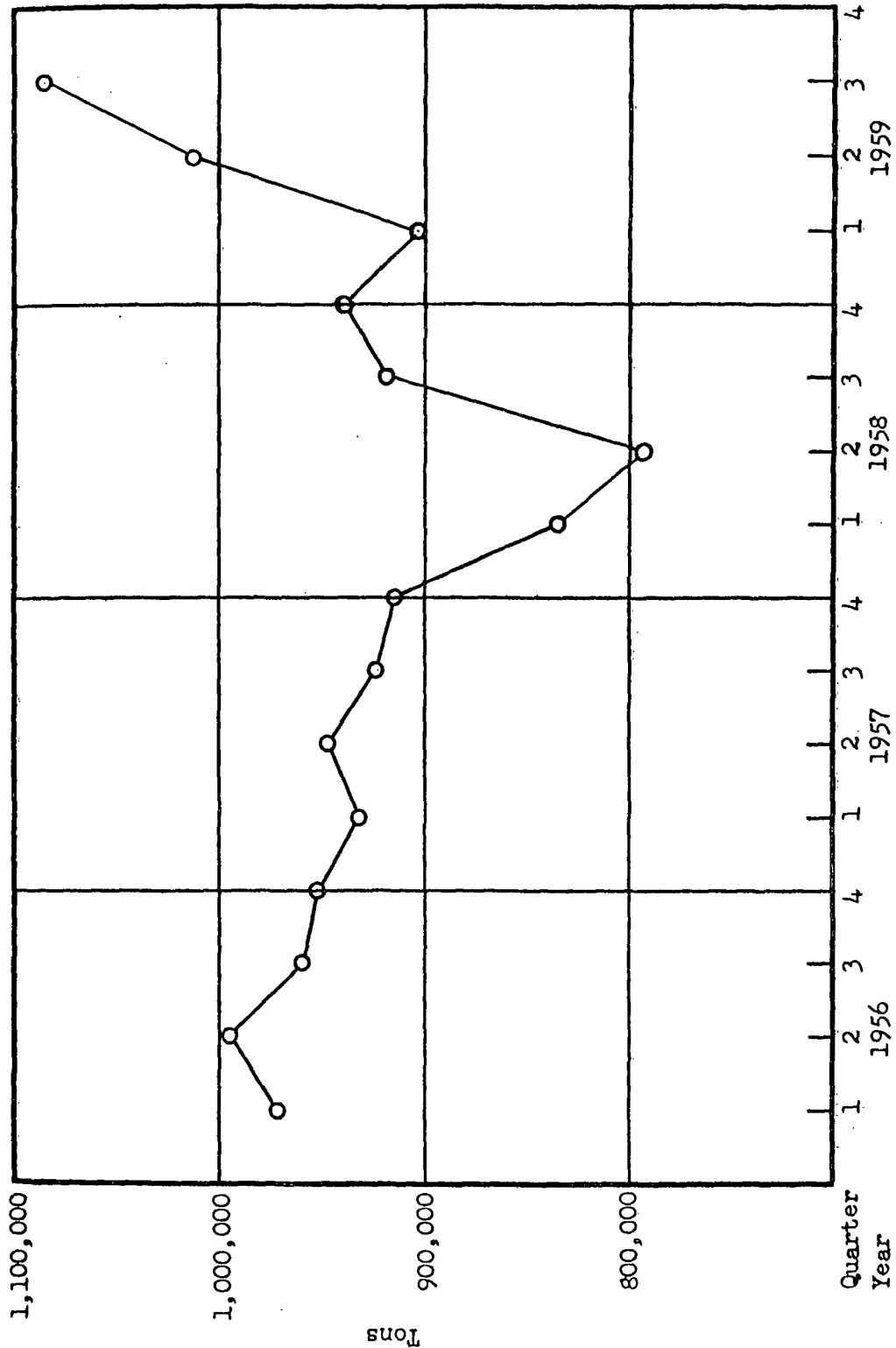


Figure 1. Total Production of All Grades

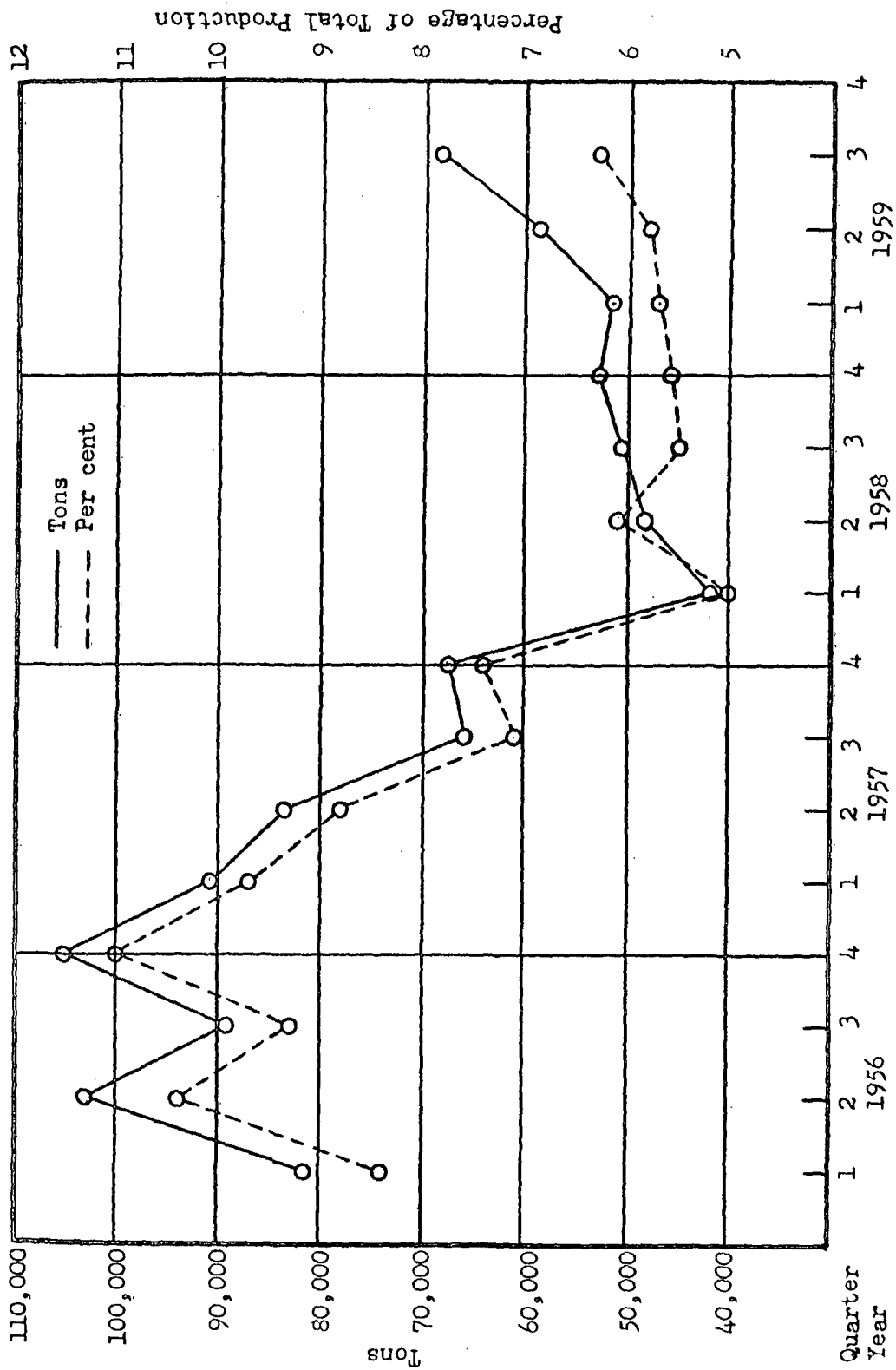


Figure 2. Production, 26-lb.

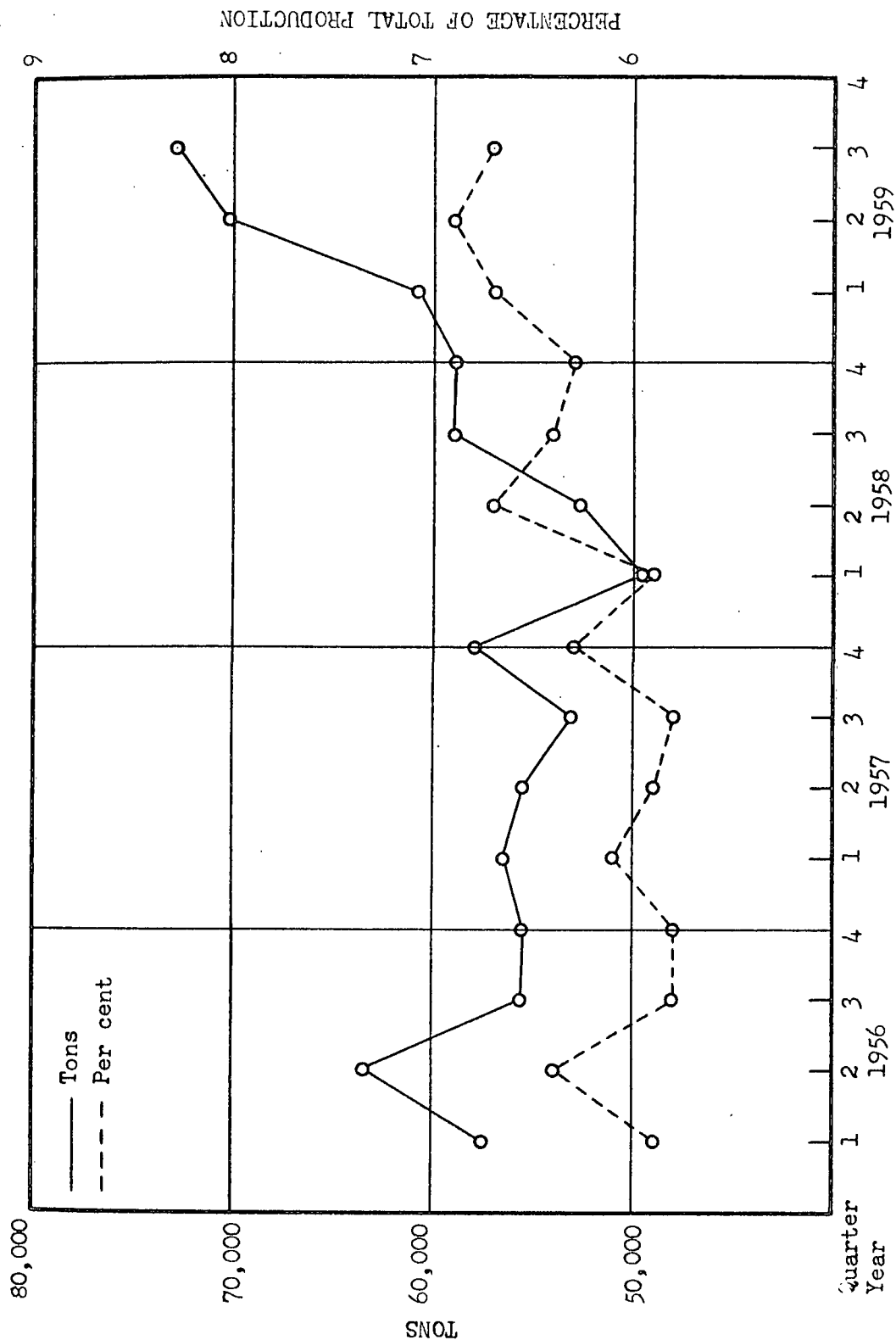


Figure 3. Production, 33 lb.

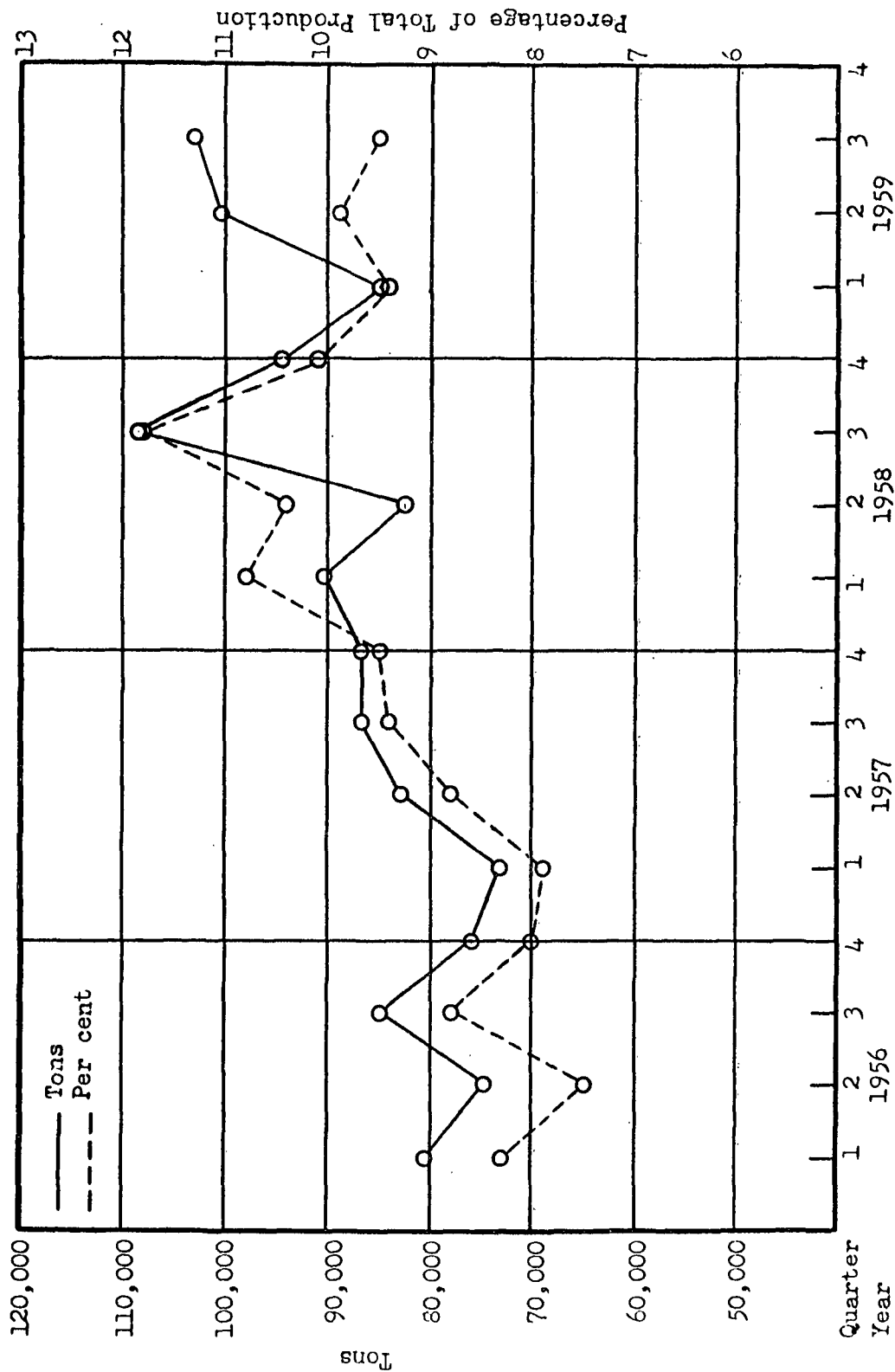


Figure 4. Production, 38-lb.

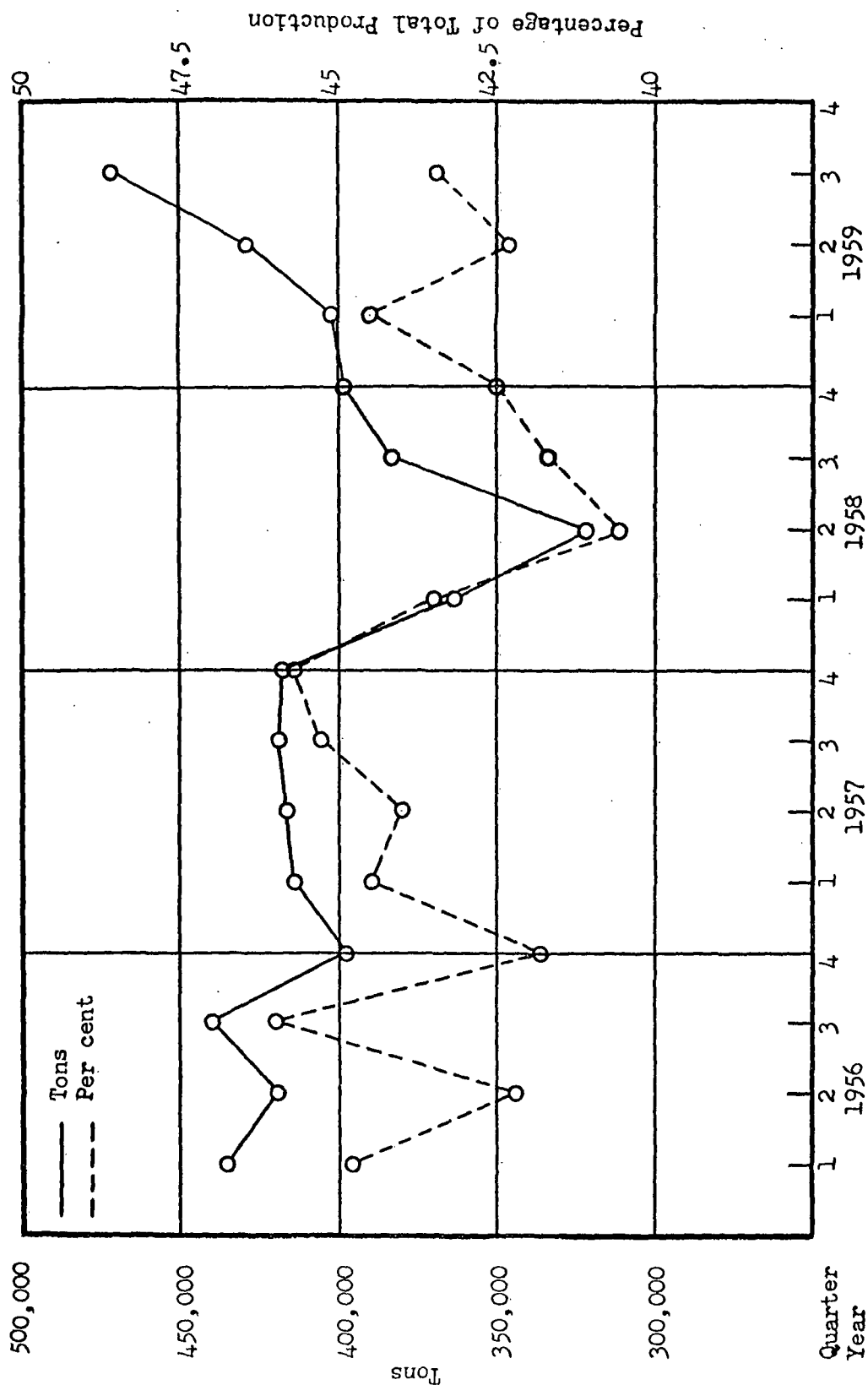


Figure 5. Production, 42-lb.

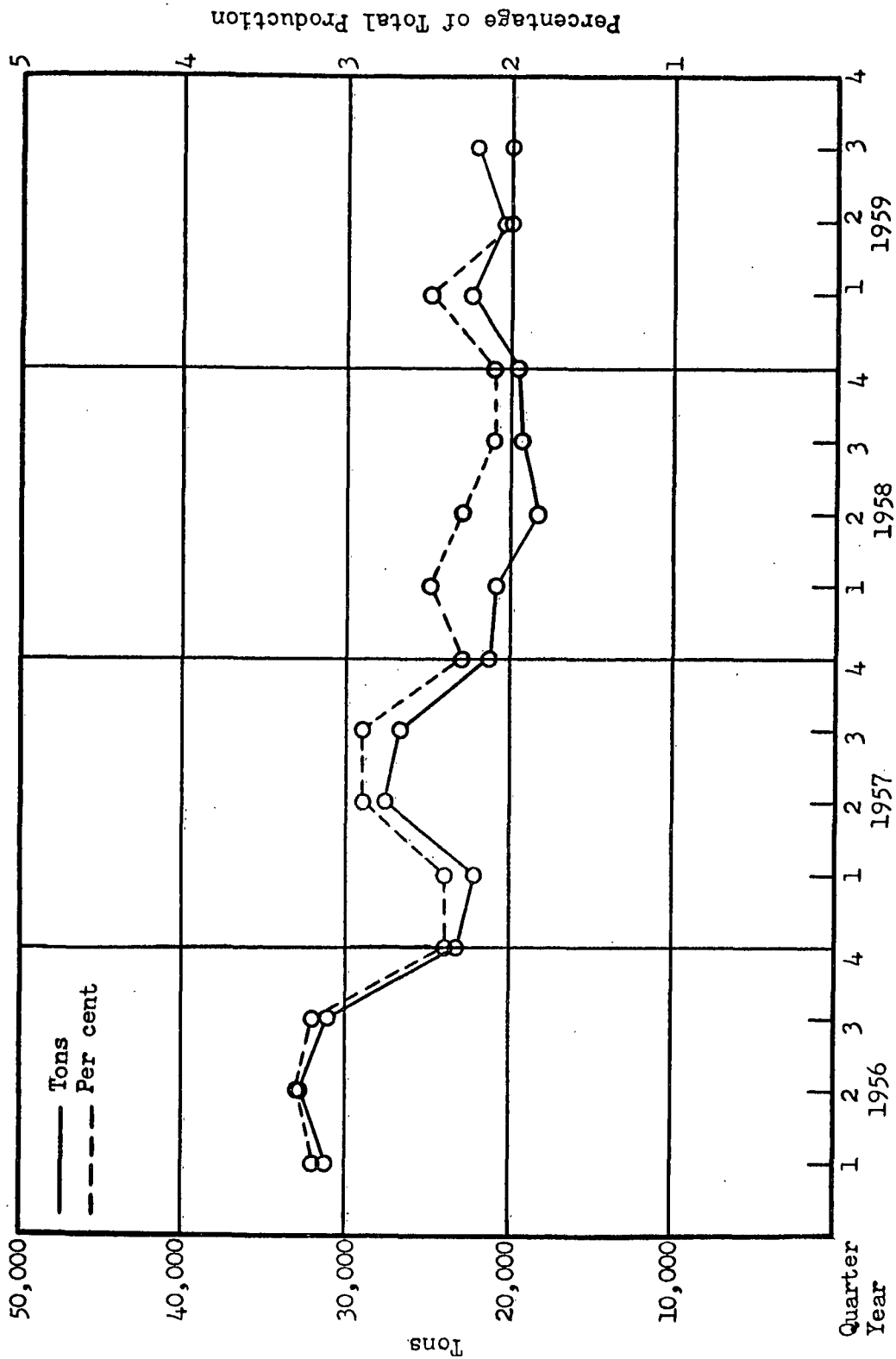


Figure 6. Production, 47-lb.



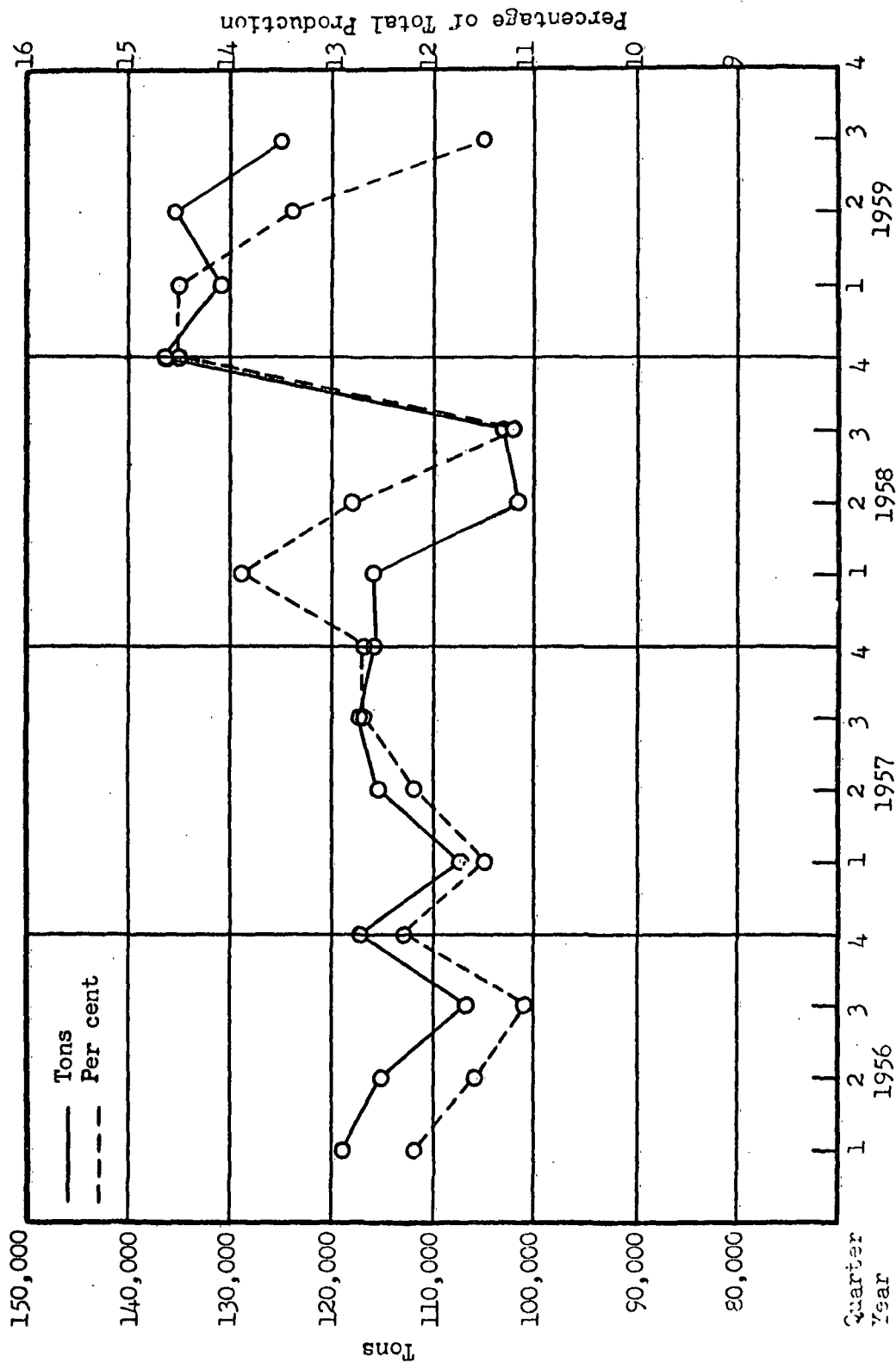


Figure 7. Production, 69-lb.

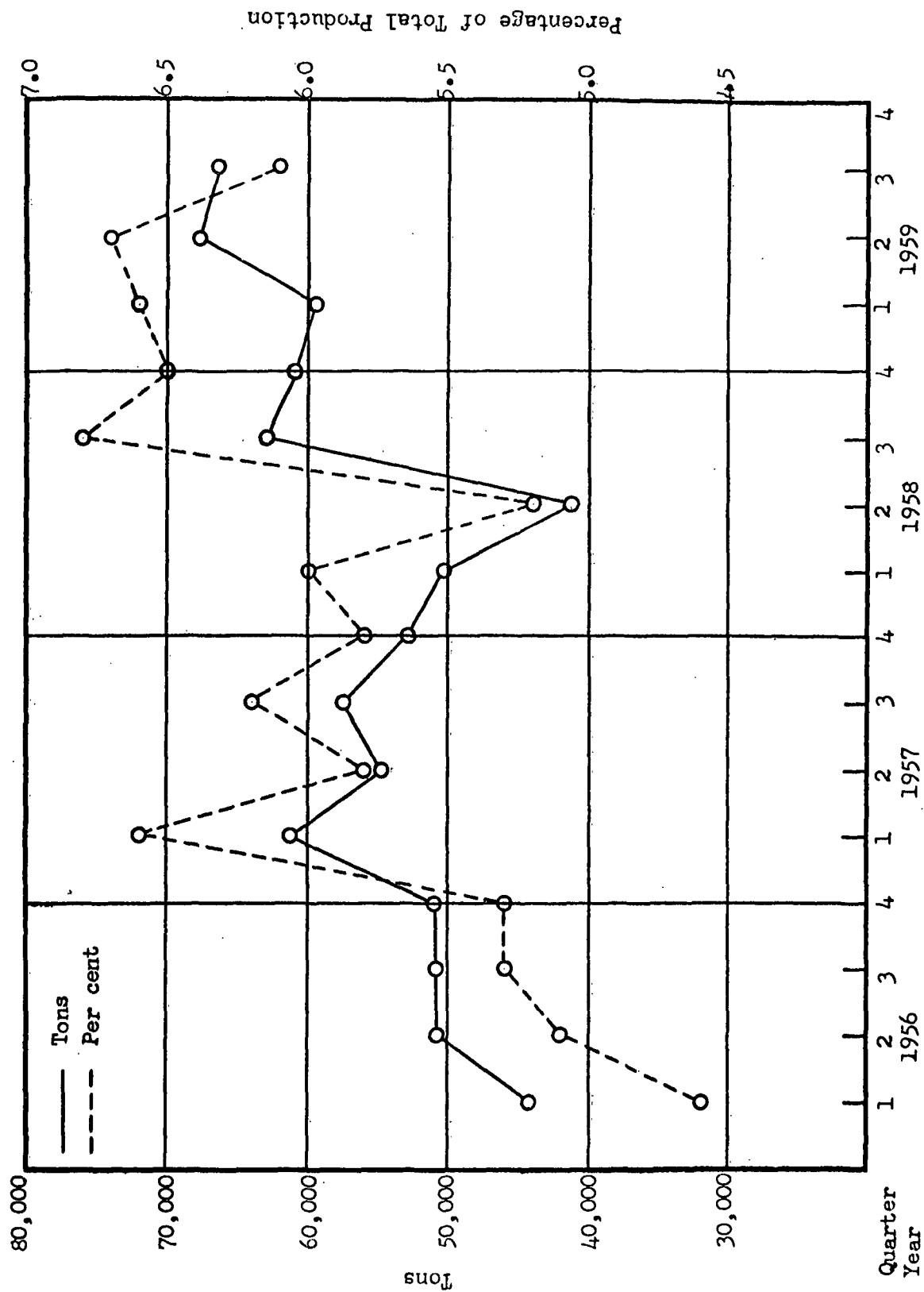


Figure 8. Production, 90-lb.

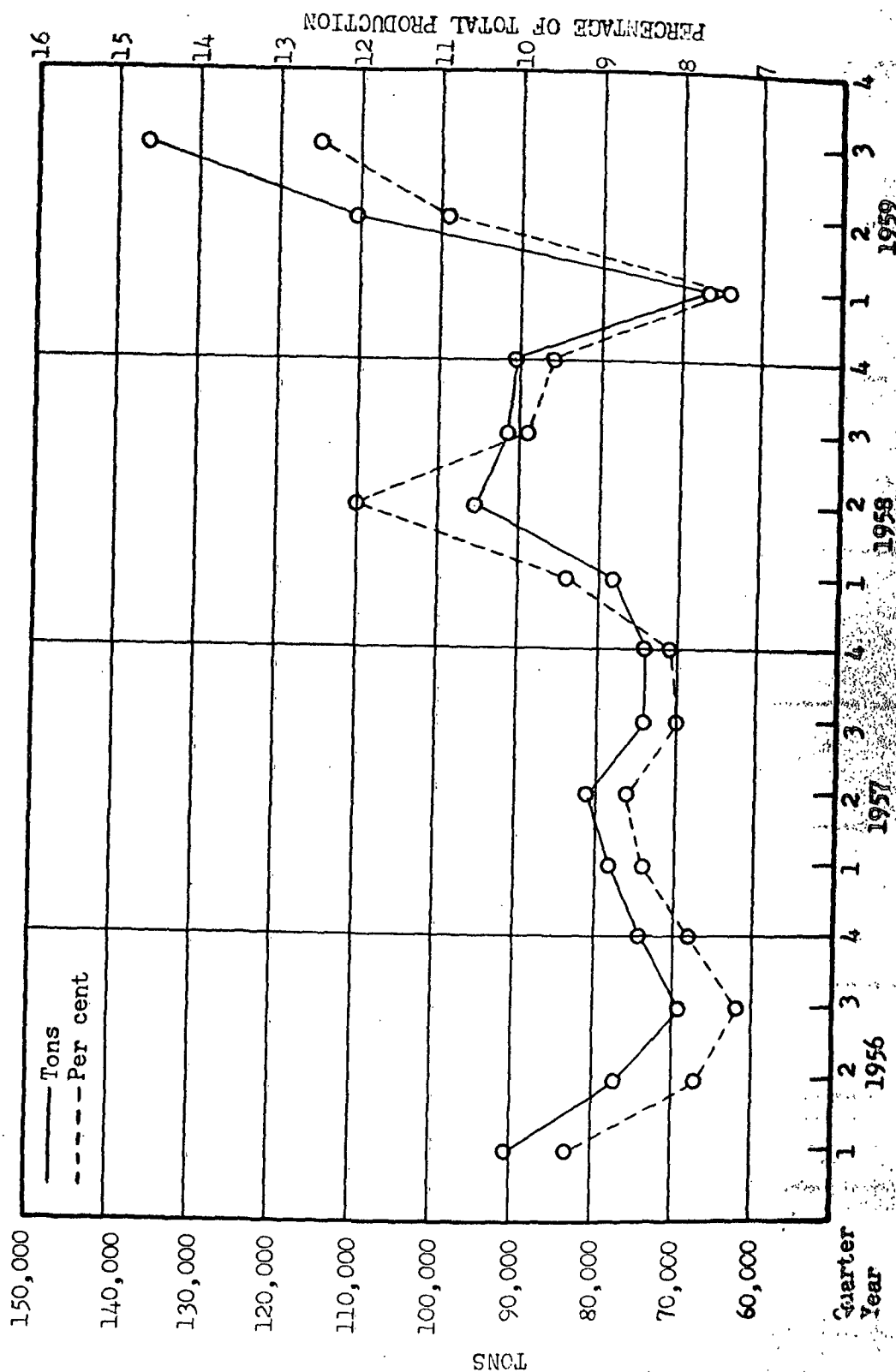


Figure 9. Production, Miscellaneous

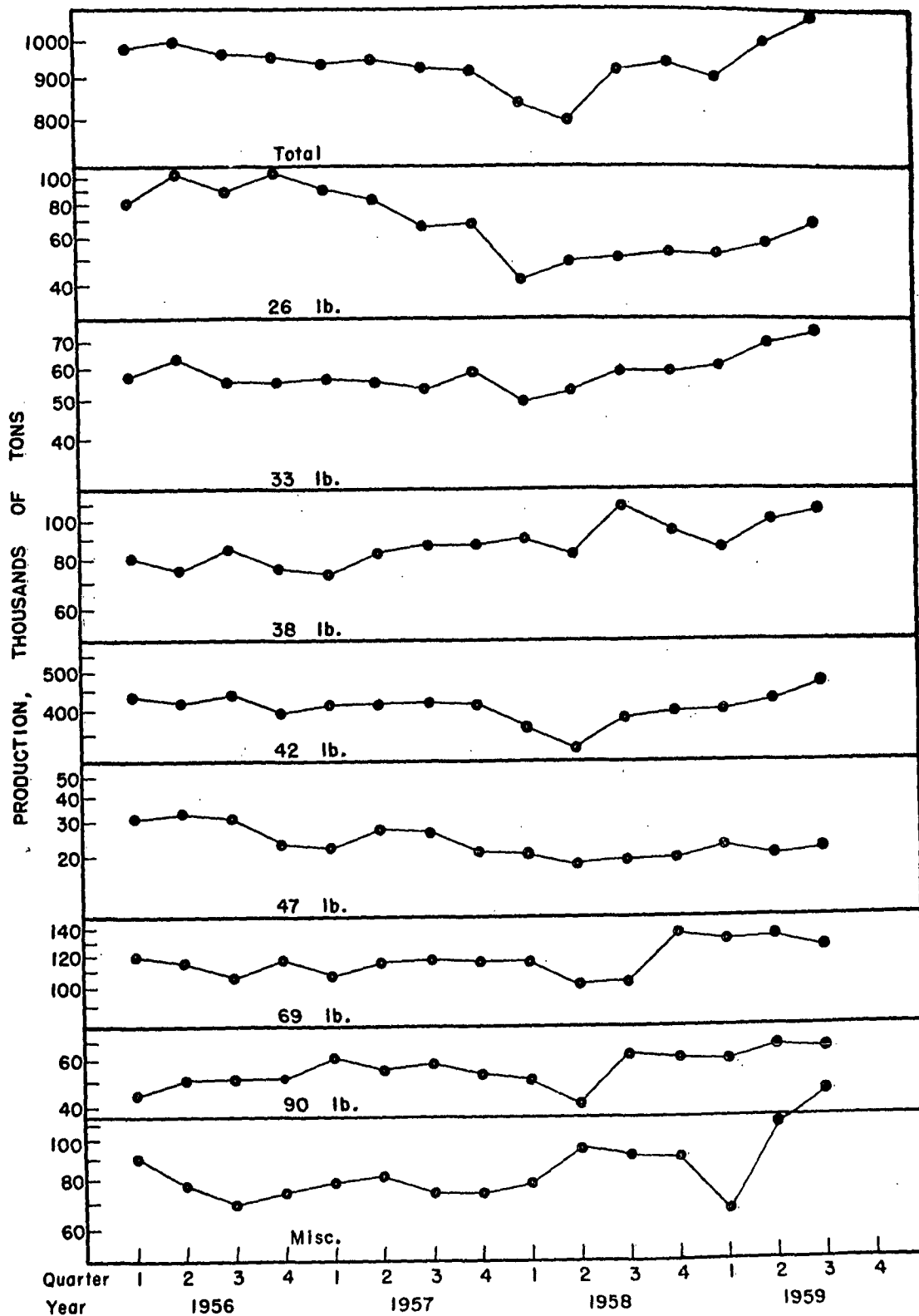


Figure 10. Comparison of Percentage Changes in Production for All Grades.

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